

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* XIAOJU WU, PINHAI HAO, IMRAN KHAN,  
JOZEF C. MITROS, JAMES R. TODD, and ROBERT PAN

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Appeal 2007-1234  
Application 10/017,990  
Technology Center 2800

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Decided: July 13, 2007

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Before JAMES D. THOMAS, JOSEPH L. DIXON, and  
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the  
Examiner's rejection of claims 1-30. We have jurisdiction under  
35 U.S.C. § 6(b).

We AFFIRM.

## THE INVENTION

The disclosed invention relates generally to semiconductor electronic circuits, and, more particularly, to an electronic circuit with an electrical hole insulator (Specification 1).

Independent claim 1 is illustrative:

1. An electronic circuit, comprising:
  - a semiconductor substrate;
  - a first layer in a fixed physical relation to the semiconductor substrate;
  - a well formed in the first layer, wherein the well comprises a first conductivity type and has a side dimension and a bottom dimension;
  - a first enclosure surrounding the side dimension and the bottom dimension of the well, wherein the first enclosure comprises a second conductivity type complementary of the first conductivity type and has a side dimension and a bottom dimension; and
  - a second enclosure surrounding the side dimension and the bottom dimension of the first enclosure, wherein the second enclosure comprises the first conductivity type.

## THE REFERENCES

Husher	US 5,179,432	Jan. 12, 1993
Taniguchi	US 5,399,510	Mar. 21, 1995

Sze, S.M., "Semiconductor Devices, Physics and Technology", Wiley & Sons., New York, 1985, p. 139.

### THE REJECTIONS

Claims 1, 2, 4-6, 8, 13, 15, 17, 21-24, 27, 29, and 30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Husher.

Claims 3, 7, 10, 14, 25, 26, and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Husher in view of Taniguchi.

Claims 9, 11, 12, 16, and 18-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Husher in view of Sze.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for the respective details thereof.

#### Independent claim 1

We consider first the Examiner's rejection of independent claim 1 as being anticipated by Husher.

Appellants argue that Husher does not disclose the claimed "well" [i.e., "a well formed in the first layer, wherein the well comprises a first conductivity type and has a side dimension and a bottom dimension"] (Br. 4, claim 1). Appellants note that the Examiner corresponds region 160 in the Husher patent with the claimed "well" (*see* Husher, Fig. 3, col. 4, l. 1). Appellants further note that Husher discloses: "P catch diffusion region 150 may be electrically connected, via annular P+ sinker region (or return region) 160, to the collector terminal of the transistor" (*see* Husher, col. 3, l. 67 through col. 4, l. 2) (Br. 4, ¶ 1). Thus, Appellants conclude that region 160 is not a well region but is instead a sinker region as described by

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Husher. Significantly, Appellants argue the following meaning for the claim term “well”:

The word well refers to a region that has a specific function and can be formed by a number of different methods including ion implantation, thermal diffusion etc. The word well in the semiconductor arts refers to a region formed in a semiconductor in which an electronic device is formed.

(Br. 4, ¶ 2).

Thus, Appellants conclude that the Examiner has failed to establish a prima facie case of anticipation (Br. 5).

The Examiner disagrees. The Examiner maintains that the word “well” has a broad meaning as used in semiconductor terminology. The Examiner asserts that every region in a semiconductor device has a specific function, otherwise it would not be in the device. The Examiner broadly construes the claim term “well” as reading on any doped region in a semiconductor substrate (Answer 6).

In the Reply Brief, Appellants refer to extrinsic evidence and argue the Examiner has improperly construed the claim term “well” in light of the extrinsic references (Reply Br. 2-4, *see* Appellants’ discussion of “VLSI Technology”, second edition and “Silicon Processing for the VLSI Era”, Vol. II).

In rejecting claims under 35 U.S.C. § 102, a single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation. *Perricone v. Medicis Pharm.*, 432 F.3d 1368, 1375-76, 77 USPQ2d 1321, 1325-26 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565, 24 USPQ2d 1321, 1326 (Fed. Cir. 1992)).

We begin our analysis by noting that the Court of Appeals for the Federal Circuit has stated: “[w]hen the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art.” *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (internal citation omitted). Our reviewing court has further determined that “the specification is ‘the single best guide to the meaning of a disputed term,’ and that the specification ‘acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321, 75 USPQ2d 1321, 1332 (Fed. Cir. 2005) (en banc) (internal citations omitted).

This reasoning is applicable here and we interpret the claim language as advanced by Appellants. Thus, when we construe the claim term “well” as (1), “a region that has a specific function and can be formed by a number of different methods including ion implantation, thermal diffusion etc.,” and as (2), “a region formed in a semiconductor in which an electronic device is formed” (as argued by Appellants, *see* Br. 4, ¶ 2), we find the weight of the evidence supports the Examiner’s position. In particular, we agree with the Examiner that Husher’s region 160 (Fig. 3) meets both prongs of Appellants’ argued broad definition. We further find the Examiner’s interpretation of the recited term “well” is consistent with the usage of that term within the Specification (*see* Specification, e.g., well 32a and well 32b, p. 7, ll. 13-17; p-type well 34, p. 8, ll. 6-10). Therefore,

we agree with the Examiner that Husher discloses in Fig. 3 “a well [i.e., region 160] formed in the first layer [region 160 extends to the surface], wherein the well comprises a first conductivity type [P+] and has a side dimension and a bottom dimension,” as claimed (claim 1).

Regarding the extrinsic evidence newly presented with the Reply Brief, we have no discretion to consider the new evidence and associated new arguments. *See* 37 C.F.R. § 41.33(d)(2):

(2) All other affidavits or other evidence filed after the date of filing an appeal pursuant to §41.31(a)(1) through (a)(3) will not be admitted except as permitted by §§41.39(b)(1), 41.50(a)(2)(i) and 41.50(b)(1).

(37 C.F.R. ¶ 41.33(d)(2)). *See also Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978, 989, 80 USPQ2d 1839, 1847-48 (Fed. Cir. 2006) (an issue not raised in an opening brief is waived). We note that if Appellants wish to have the new evidence considered by the Examiner, the proper procedure is to file a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114.

Therefore, for at least the aforementioned reasons, we conclude the Examiner has met the burden of presenting a *prima facie* case of anticipation. Accordingly, we will sustain the Examiner’s rejection of independent claim 1 as being anticipated by Husher.

#### Dependent claims 2-30

We further note that Appellants have not presented any substantive arguments directed to the separate patentability of dependent claim 2-30. In the absence of a separate argument with respect to the dependent claims,

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those claims stand or fall with the representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004). Therefore, we will sustain the Examiner's rejection of claim 2, 4-6, 8, 13, 15, 17, 21-24, 27, 29, and 30 as being anticipated by Husher for the same reasons discussed *supra* with respect to independent claim 1. For the same reasons, we will sustain the Examiner's rejection of dependent claims 3, 7, 10, 14, 25, 26, and 28 as being unpatentable over the teachings of Husher in view of Taniguchi as well as the Examiner's rejection of dependent claims 9, 11, 12, 16, and 18-20 as being unpatentable over the teachings of Husher in view of Sze.

#### DECISION

We have sustained the Examiner's rejection of all claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-30 is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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